

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-35 (Cancelled)

Claim 36 (New): A method of preparing an osteogenic protein fraction, comprising:

extracting demineralized bone matrix with a solution of at least one chaotropic agent selected from the group consisting of urea and guanidinium salts to produce an extract;

removing high molecular weight proteins which exceed 100-300 kDa from the extract by ultrafiltration to produce a lower molecular weight fraction;

subjecting the lower molecular weight fraction to heparin affinity chromatography under conditions which first favor the binding and then the elution of a purified heparin affinity fraction containing the osteogenic protein fraction;

subjecting the heparin affinity fraction to hydroxyapatite chromatography under conditions which first favor the binding and then the elution of a purified osteogenic protein fraction; and

exchanging the purified osteogenic protein fraction into a solvent suitable for human medical use.

Claim 37 (New): A bone growth inducing composition, comprising a combination of an osteogenic protein fraction prepared by the method as claimed in claim 36, a carrier matrix and gelatine.

Claim 38 (New): A bone growth inducing composition, comprising a combination of an osteogenic protein prepared by the method of claim 36, a carrier matrix and gelatine, in order to produce a mixture, wherein the mixture is lyophilized to produce a hydratable powder.

Claim 39 (New): The bone growth inducing composition as claimed in claim 38, wherein the carrier matrix is selected from the group consisting of insoluble bone matrix, a biodegradable synthetic matrix and a synthetic inorganic matrix.

Claim 40 (New): The bone growth inducing composition as claimed in claim 39, wherein the carrier matrix is human insoluble collagenous bone matrix (hICBM).

Claim 41 (New): The bone growth inducing composition as claimed in claim 38, wherein the gelatine is human gelatine.

Claim 42 (New): The bone growth inducing composition as claimed in claim 38, wherein the carrier matrix is hICBM, the gelatine is human gelatine and the mass ratio between the osteogenic protein, the hICBM and the gelatine is in the range of 0.4-0.6:800-1200:100-1000.

Claim 43 (New): The bone growth inducing composition as claimed in claim 42, wherein the mass ratio is about 0.5:1000:200.

Claim 44 (New): A device for inducing bone growth in a mammal, comprising a syringe containing a bone growth inducing composition as claimed in claim 38.

Claim 45 (New): A method of inducing bone formation in a mammal having a skeletal defect, comprising reconstituting a bone growth inducing composition as claimed in claim 38 and implanting the reconstituted composition into the skeletal defect of the mammal.

Claim 46 (New): A method of inducing the growth of ectopic bone in a mammal, comprising reconstituting a bone growth inducing composition as claimed in claim 38 and implanting the reconstituted composition in a non-bony site of the mammal.

Claim 47 (New): A method of accelerating allogeneic bone healing in a mammal, comprising reconstituting a bone growth inducing composition as claimed in claim 38 and implanting allogeneic bone material together with the reconstituted composition into a site in which allogeneic bone healing in the mammal is required.

Claim 48 (New): The method as claimed in claim 47, wherein the allogeneic bone material is selected from the group consisting of human cortical bone chips, cancellous bone blocks, cancellous bone powder, whole bone and demineralized bone matrix.

Claim 49 (New): A method of accelerating autogenous bone graft healing in a mammal, comprising reconstituting a bone growth inducing composition as claimed in claim 38 and implanting autogenous bone material together with the reconstituted composition into a site in which autogenous bone graft healing in the mammal is required.

Claim 50 (New): The method as claimed in claim 49, wherein the autogenous bone material is morselized iliac crest autogenous bone.